

In the claims:

1. (Currently amended) ~~The use of gangliosides, ganglioside derivatives and/or cholesterol derivatives for preparing an agent for modulating~~ A method for modulating sphingolipid-cholesterol microdomains in a patient in need of such modulation comprising:

administering to the patient at least one ganglioside, ganglioside derivative or cholesterol derivative in a sphingolipid-cholesterol microdomains microdomain modulating effective amount.

2. (Currently amended) ~~The use as claimed in claim 1, characterized in that the agent~~ A method according to claim 1, wherein said at least one ganglioside, ganglioside derivative or cholesterol derivative influences the location of components and their function on the sphingolipid-cholesterol microdomains.

3. (Currently amended) ~~The use as claimed in claim 1, characterized in that the agent~~ A method according to claim 1, wherein said at least one ganglioside, ganglioside derivative or cholesterol derivative influences the location of proteins on/in the sphingolipid-cholesterol microdomains.

4. (Currently amended) ~~The use as claimed in claim 3, characterized in that the agent~~ A method according to claim 3, wherein said at least one ganglioside, ganglioside derivative or cholesterol derivative influences the location of anchor proteins, acylated proteins, Src kinases and/or cholesterol-anchored proteins and other raft proteins.

5. (Currently amended) ~~The use as claimed in claim 3, characterized in that the agent~~ A method according to claim 3, wherein said at least one ganglioside, ganglioside

derivative or cholesterol derivative acts on glycosylphosphatidylinositol anchor proteins, kinases of the Src family, influenza virus hemagglutinin and other viral proteins and/or caveolin-1, 2 or 3 in the sphingolipid-cholesterol microdomain.

6. (Currently amended) ~~The use as claimed in claim 1, characterized in that the agent~~
A method according to claim 1, wherein said at least one ganglioside, ganglioside
derivative or cholesterol derivative brings about a disassembly of the protein clusters.

7. (Currently amended) ~~The use as claimed in claim 1, characterized in that the~~ A
method according to claim 1, wherein said at least one ganglioside is [selected from] a
bovine brain ganglioside gangliosides, GM₁, GD1a, GD1b, GD3, GM2, GM3, GQ1a,
GQ1b, [and/]or a globoside globosides and their derivatives, in particular unsaturated
sphingosines or ceramides containing unsaturated or short fatty acids.

8. (Currently amended) ~~The use as claimed in claim 1, characterized in that~~ A method
according to claim 1, wherein at least one cholesterol derivatives derivative is
administered, in particular cholesterol sulfate, are employed.

9. (Currently amended) ~~The use as claimed in claim 1, characterized in that the~~ A
method according to claim 1, wherein the modulation of the sphingolipid-cholesterol
~~microdomains~~ microdomain brings about a change in membrane transport, signal
transmission and/or cell adhesion properties and/or enzymic processes.

10. (Currently amended) ~~The use as claimed in claim 1, characterized in that the~~ A
method according to claim 1, wherein the modulation of the sphingolipid-cholesterol
~~microdomains~~ microdomain brings about a change in the proteolysis of the amyloid
precursor protein of Alzheimer's disease or a modification in a prion protein.

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11. (Currently amended) ~~The use as claimed in claim 1, characterized in that the~~ A method according to claim 1, wherein the modulation of the sphingolipid-cholesterol microdomains microdomain prevents the phagocytosis of bacteria and parasites in mammalian cells.

12. (Currently amended) ~~The use as claimed in claim 1, characterized in that the~~ A method according to claim 1, wherein the modulation of the sphingolipid-cholesterol microdomains microdomain prevents the uptake of viruses into mammalian cells and/or their transport and release.

13. (Currently amended) ~~The use as claimed in~~ A method according to claim 1 wherein at least one ganglioside is administered , ~~characterized in that the agent is employed as a therapeutic agent.~~

14. (Currently amended) ~~The use of gangliosides, ganglioside derivatives and/or cholesterol derivatives for modulating sphingolipid-cholesterol microdomains~~ A method according to claim 1 wherein at least one ganglioside derivative is administered.

15. (Currently amended) ~~A process~~ method for modulating sphingolipid-cholesterol microdomains in a patient in need of such modulation, characterized in that comprising administering at least one ganglioside ~~gangliosides, ganglioside derivatives and/or derivative or cholesterol derivatives are administered~~ derivative to a the patient at a dose of from 3 mg to 30 mg per kg body weight per day.

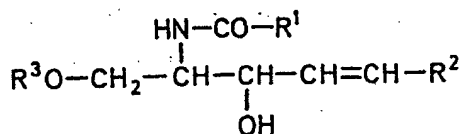
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16. (New) A method according to claim 1, wherein said at least one ganglioside derivative is a derivative of sphingosine or ceramidine.

17. (New) A method according to claim 16, wherein said derivative comprises at least one monosaccharide unit, wherein said at least one monosaccharide unit is D-galactose, N-acyl-D-galactosamine, D-glucose or N-acetylneuraminic acid.

18. (New) A method according to claim 16, wherein said ganglioside derivative is a derivative of sphingosine.

19. (New) A method according to claim 16, wherein said ganglioside derivative is a derivative of ceramide of the formula:



wherein R^1 is a long chain fatty acid residue, R^2 is a long chain alkyl residue and R^3 is H or a glycoside.

20. (New) A method according to claim 19, wherein the long chain fatty acid residue is a $\text{C}_6\text{-C}_{30}$ fatty acid residue.

21. (New) A method according to claim 19, wherein the long chain alkyl residue is a $\text{C}_6\text{-C}_{30}$ alkyl residue.

22. (New) A method according to claim 19, wherein a functional group is substituted or added on the backbone chain.

23. (New) A method according to claim 22, wherein said functional group is an alcohol group, an ether group, a carbonyl function, a carboxylic acid group, a carboxylic anhydride group, a carbamoyl group, a haloformyl group, a cyano group, an ester group, a lactone group, a benzyl group, phenyl group, tolyl group, tosyl group, sulfonyl group, an amino group, an isocyanate, a cyanate, a thioisocyanate, a thiocyanate, a carbamate, an azide, a diazo group, a quinone group or a halide substituted alkyl, alkenyl, alkynyl or aryl radical.

24. (New) A method according to claim 20, wherein the long chain fatty acid residue is a C₈-C₂₄ fatty acid residue.

25. (New) A method according to claim 21, wherein the long chain alkyl residue is a C₈-C₂₄ alkyl residue.

26. (New) A method according to claim 1, wherein said at least one cholesterol derivative is cholesterol sulfate or cholesterol thiosulfate.

27. (New) A method according to claim 1, wherein said at least one cholesterol derivative comprises at least one substituted or added organic group.


28. (New) A method according to claim 27, wherein said at least one organic group is an alcohol group, an ether group, a carbonyl function, a carboxylic acid group, a carboxylic anhydride group, a carbamoyl group, a haloformyl group, a cyano group, an ester group, a lactone group, a benzyl group, phenyl group, tolyl group, tosyl group, sulfonyl group, an amino group, an isocyanate, a cyanate, a thioisocyanate, a

thiocyanate, a carbamate, an azide, a diazo group, a quinone group or a halide substituted alkyl, alkenyl, alkynyl or aryl radical.

29. (New) A method according to claim 8, wherein said at least one cholesterol derivative comprises at least one oligopeptide, oligonucleotide, amino acid, monosaccharide, disaccharide or polysaccharide.

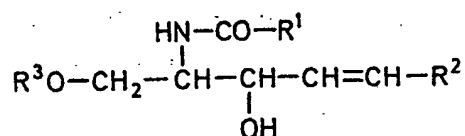
30. (New) A method according to claim 14, wherein said at least one derivative is a unsaturated sphingosine or ceramide containing unsaturated or short fatty acids.

31. (New) A method according to claim 8, wherein said at least one cholesterol derivative is a cholesterol sulfate.

 32. (New) A pharmaceutical composition comprising at least one unsaturated sphingosine or ceramide, wherein said at least one unsaturated sphingosine or ceramide is structurally substantially identical to at least one unsaturated sphingosine or ceramide that is a constituent of a sphingolipid-cholesterol microdomain, and a pharmaceutically acceptable carrier therefor.

33. (New) The pharmaceutical composition of claim 32, wherein the C1 oxygen of said sphingosine is substituted with a sugar moiety and the C2 amino group is substituted with a saturated or unsaturated fatty acid.

34. (New) The pharmaceutical composition of claim 32, wherein the said at least one ceramide has the formula:



wherein R¹ is a long chain fatty acid residue, R² is a long chain alkyl residue and R³ is H or a glycoside.

35. (New) The pharmaceutical composition of claim 34, wherein the long chain fatty acid residue is a C₆-C₃₀ fatty acid residue.

36. (New) The pharmaceutical composition of claim 34, wherein the long chain alkyl residue is a C₆-C₃₀ alkyl residue.

37. (New) The pharmaceutical composition of claim 34, wherein a functional group is substituted or added on the backbone chain.

38. (New) The pharmaceutical composition of claim 37, wherein said functional group is an alcohol group, an ether group, a carbonyl function, a carboxylic acid group, a carboxylic anhydride group, a carbamoyl group, a haloformyl group, a cyano group, an ester group, a lactone group, a benzyl group, phenyl group, tolyl group, tosyl group, sulfonyl group, an amino group, an isocyanate, a cyanate, a thioisocyanate, a thiocyanate, a carbamate, an azide, a diazo group, a quinone group or a halide substituted alkyl, alkenyl, alkynyl or aryl radical.

39. (New) The pharmaceutical composition of claim 35, wherein the long chain fatty acid residue is a C₈-C₂₄ fatty acid residue.